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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/645,471 | 08/24/2000 | Masaya Yukinobu | 000996 | 4323 |

23850 7590 11/21/2002

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[REDACTED] EXAMINER

PAULRAJ, CHRISTOPHER

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1773 | S |

DATE MAILED: 11/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/645,471 | YUKINOBU ET AL. |
| | Examiner | Art Unit |
| | Christopher G. Paulraj | 1773 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
 - 4a) Of the above claim(s) 1-12 and 21 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 13-20 and 22-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. Applicant's election without traverse of claims 13-20 and 22-24 in Paper No. 4 is acknowledged.
2. Claims 1-12 and 21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 13-15 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The inclusion of gold microparticles or gold-containing nobel metal microparticles containing 5 wt% or more gold with a mean particle diameter of 1 to 100 nm in the coating liquid is deemed critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The specification, pages 7, 17, and 18 disclose that these features are essential in order to form a transparent conductive layer with low surface resistance and improved weather resistance, considered to be the Applicants' invention. The features must therefore be included in the independent claims.
5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 13-20 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. The claims recite that the liquid coating comprises, as *its main components*, various elements. However, neither the claims nor the specification provide any standard for determining what qualifies as amounting to being the "main component" of the liquid coating. It is not clear whether the claims require a minimum amount of the recited ingredients within the claimed liquid coating.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaya et al. (U.S. Patent 5,814,703).

The recitation "used in the method of producing a transparent conductive layered structure according to claim [7 or 8]" in claims 13 and 16i is directed towards intended use and will not be considered as a limitation in a determination of patentability over the prior art.

Yamaya et al. disclose a coating composition comprising (A) an organic resin and (B) a silicon compound containing hydrolyzable alkoxy silyl groups (abstract). The silicon compound (B) also comprises a particular functional group X which can be a mercapto group (see col. 2, line 45). The amount of the silicon compound (B) in the composition can range from 0.1 to 50 parts by weight per 100 parts by weight of the resinous solid components (col. 7, lines 62-66).

10. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (U.S. Patent 5,681,890).

Tanaka et al. discloses a coating composition that contains 100 parts by weight of a resin component (A and B) and 1 to 20 parts by weight of a silicon compound (D) having a functional group that can include a mercapto group (abstract).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 13-20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haluska et al. (U.S. Patent 5,492,958) in view of Yukinobu et al. (JP 11-203943).

The recitation "used in the method of producing a transparent conductive layered structure according to claim [7 or 8]" in claims 13 and 16 is directed towards intended use and will not be considered as a limitation in a determination of patentability over the prior art.

Since the independent claim 16 alternatively recites the microparticles as either "gold microparticles or gold-containing noble metal microparticles," the additional limitations to only the "gold-containing noble metal microparticles" placed by claims 17 and 18 are not considered to exclude the use of "gold microparticles" that do not have the specifically recited limitations. Haluska et al. disclose a metal containing ceramic coating that comprises an inorganic resin containing silica sol (see abstract, col. 2, lines 12-54) and gold particles as a metallic filler (see col. 4, lines 25). The coating composition can also include additional materials which modifies the surface of the metallic filler for better adhesion, such as mercaptopropyltrimethoxylane, considered to meet the requirements of the functional group-containing compound of the instant claims (col. 4, lines 35-45).

Haluska et al. does not specifically recite the use of the mercaptopropyltrimethoxylane within the specifically claimed amounts. However, in the absence of establishing criticality/unexpected results, one skilled in the art would have found it obvious to optimize the adhesiveness of the metallic fillers by adjusting the amount of the adhesion promoting compound to within the claimed range. The motivation for doing so would have been to optimize the adhesiveness of the fillers to the binder matrix within the coating composition.

Haluska et al. also does not specifically disclose that the particle diameter of the gold microparticles are within the claimed range. However, the reference does recite that the particle size of the filler can vary depending on factors such as the type of filler, the desired coating thickness, etc. (col. 4, lines 23-25). Yukinobu et al. discloses similar gold-containing nobel metal microparticles in an inorganinc silica sol coating having the presently claimed particle size. One skilled in the art would therefore have found it obvious to adjust the particle diameter of the fillers disclosed by Haluska et al. to within the claimed range. The motivation for doing so would have been to optimize the transparency of the metal containing ceramic coating (see Yukinobu et al., ¶ [0027]).

Information Disclosure Statement

13. Receipt of Information Disclosure Statement filed on August 24, 2000 is acknowledged and has been made of record. Foreign language documents were only considered to the extent of what their English abstracts provided.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Paulraj whose telephone number is (703) 308-1036. The examiner can normally be reached on Monday-Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The

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fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.

Cap

cgp

November 14, 2002

Paul Thibodeau

Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700